

## Massachusetts Water Resources Commission Meeting Minutes of June 13, 2002

### **Members Present:**

Mark P. Smith	EOEA
Marilyn Contreas	DHCD
Mike Gildesgame	DEM
Cynthia Giles	DEP
Gerard Kennedy	DFA
Joe McGinn	MDC
Joe Pelczarski	CZM
Richard Butler	Public Member
Gary Clayton	Public Member
David Rich	Public Member

### **Others Present:**

Vicki Gartland	DEM
Michele Drury	DEM
Gretchen Nabreski	DEM
Martha Stevenson	LWV/WSCAC
Margaret Kearns	Riverways DFWELE
David Edson	Prism Environmental
Jarrett Selig	Prism Environmental
James Miller	Town of Stoughton
Daniel Annaccone	Town of Weymouth
Bradley Hayes	Town of Weymouth
Kenneth Carlson	Weston & Sampson
Lise Marx	MWRA
Bruce Taggart	USGS
Duane LeVangie	DEP
Linda Marler	DEM
Lorraine Downey	MWRA
Erik Grotton	Charlton

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### **Item 1: Executive Director's Report**

- DEP has finished updating their model by-law, the suggestions that the Commission made were reflected in the model by-law. DFA's concerns about how agriculture is covered were resolved. DEP has now finalized the model by-law and we are going to include it as one of the appendices of the Lawn and Landscape Conservation Guide, print them, and send them out. This will happen in the near future. Some of the restrictions in the model by-law now mirror what we had in our guide. This is also true for the exemption for commercial agriculture. We will bring back the Lawn and Landscape Water Conservation policy discussion sometime in the future.
- The Environmental Bond Bill is going to be taken up by the House within the next week or two. Our USGS Gage program and our Watershed Initiative need new bond authorization to continue beyond the end of the fiscal year.

- An environmental group and a local citizen are planning to file suit regarding Lake Boone in Stow and Hudson, over an herbicide application used to control invasive plants in the pond. They have given the required sixty-day notice that they need under the Clean Water's Act to file suit. They are using as a precedent a decision from the western part of the country in the ninth circuit, which determined a federal NPDES Permit is needed to apply herbicides in ponds. It is not clear if this case is applicable to Massachusetts.
- June 12, 2002 was the MWRA Board meeting; they set their rates. Their rate increase is going to be 2.9%, which is small, but their direct expense budget this year is going to be 3% less this year than last year. The reason is that they are an agency transitioning from one involved with major construction to one that is more of an operation and maintenance organization. They are downsizing staff and looking for other cost cutting means while still providing a high level of service.
- Dave Rich has invited us to Cape Cod for the August meeting. The Mashpee Water District will host the August meeting.
- Item six on today's agenda has been postponed.

Hydrologic Conditions Report:

- May was a good month for precipitation. We had over five inches statewide. It was a cool month, which allowed the water to infiltrate.
- Groundwater levels overall are back to normal range statewide. There are still a few spots where groundwater levels are still below normal, especially on the Cape.
- The entire state is in the normal range for streamflow and surface runoff.
- Reservoir levels have come back to normal. Springfield has not come back up to normal; it was at 75% at the end of May.
- Fire danger levels have gone down. We are down to levels one and two, which are normal and moderate.
- All of the national drought indicators are coming down. We are back into the normal range or the levels we were at are diminishing and we have been placed in lower drought levels. The Drought Management Task Force last week reduced the drought level in Massachusetts to advisory level statewide.
- For June, so far, we have had about two inches of rain. Normally we receive 3.5 inches for the month of June, statewide.
- The drought plan makes it difficult to interpret how to step out of a drought. The plan was very specific and worked well for going into a drought.
- The precipitation deficit is still an issue. Despite all the rain we still have a seven inch precipitation deficit for the water year. We reached a peak deficit in April of 8.5 inches now we are at seven. Most of the deficit occurred in October and November. We will start to recalculate again in October.
- For the water year, we are about 77% of normal, which is up about 10% from April.

**Item 2 Presentation: Staff Recommendation on the Weymouth Landing area sewer project.**

Drury and Gartland presented the Staff Recommendation. The Commission accepted Weymouth's application as complete on April 11th. Weymouth is undertaking a very large sewer project throughout town to address overflow issues. A portion of the Landing area triggers the Inter-basin Transfer Act. It involves increasing the connection of that section to the MWRA interceptor. This area is the Weymouth and Weir sub-basin of the Boston Harbor basin. MWRA

wastewater is discharged to the Mass Coastal Basin. Approximately 3 mgd of wastewater will be transferred through this project. The town is under a DEP Administrative Consent Order (ACO) for both water and sewer. The sewer ACO requires Weymouth to develop a Sanitary Sewer System Analysis, a Sewer Extension and Connection plan, and an Infiltration/Inflow (I/I) Removal plan. This was completed in 2000. In 1999 this board approved an inter-basin transfer for the Braintree Weymouth Interceptor. Weymouth's wastewater does drain into the Braintree Weymouth Interceptor; it has the capacity to accept these flows. We are recommending that the commission approve this request under the Inter-basin Transfer Act. Weymouth's application meets all the applicable criteria of the ITA.

- A MEPA Certificate was issued the expanded ENF/single EIR in January 2002.
- They looked at all viable sources for wastewater discharge. There were three alternatives to this project, all of which involved some level of Inter-basin Transfer review. DEP has identified this alternative, to increase the capacity of the existing connection to the MWRA system was decided to be the best alternative. They looked at in-basin treatment sources, but back in the 70's and 80's this alternative was determined to have public health risks and not to provide sufficient flow relief.
- This is a wet weather solution, in-basin methods to address these problems would be I/I removal and stormwater management. They are required under the Phase II Stormwater Regulations to comply with six Best Management Practices. The town began work in November of last year to address the Phase II Stormwater Regulations. They expect to submit their Phase II Stormwater Plan to the EPA by March of next year. Under their I/I removal plan, the town inspects 40,000 to 70,000 linear feet of sewer lines each year. With the 5-year I/I program they have under the ACO, they expect to remove about 2.3 mgd of I/I. They also have a Sewer Bank, which requires 7 gallons of savings either through I/I removal or water conservation for every one gallon of wastewater allotted for the new connections. Weymouth meets the 1992 Water Conservation Standards for the Commonwealth. They have also taken measures beyond those required by the standards. Additionally, the Town has a program where they solicit businesses and residences with water saving devices. Since 1998 the town has reduced its water use by 140,000 gallons per day.
- Weymouth submitted their Local Water Resources Management Plan with their EIR. Comments on the plan were sent out this week. It is conditioned that this recommendation requires that those comments are addressed in the final plan, which then needs to be approved by the Water Resources Commission.

The Commission asked if Weymouth has had trouble complying with the ACO since it was issued four years ago. The staff answered that the town has done a good job.

The Landing area is drained by Smelt Brook, Mill River, and a small area of the Fore River sub-basin. Smelt Brook was reviewed for this project, because that is where the overflows are occurring. Additionally, Mill River was analyzed closely, because that is where the town's water supply originates and we were concerned about that sub-basin possibly becoming a stressed basin. We did not analyze the Fore River area, because that is a tidal area and whatever water is there is drawn there, used there, and then sewerred out; it is water that is never seen. Staff used the Old Swamp River Gage to evaluate these two sub-basins, because these sub-basins are fairly similar.

For Smelt Brook staff did an analysis and used the numbers that were provided by the consultant's model. It was an estimated overflow amount for the one year, six hour storm of

about 481 cubic feet for the Landing Area. Staff converted that to a flow and looked at the impact of that flow no longer being available to the sub-basin on the flow hydrograph. It was less than approximately 0.1% of the flow during storm events. It is a fairly small amount of water. It is all happening in one small area. There is no significant overflow in other areas.

For the Mill River staff looked at potential for expanding the sewer system. This area is already built out, but projections were included for future demands on the sewer system, as required by DEP. We evaluated the projections even though the area is mostly developed. It worked out to be 0.009 mgd for the Mill River sub-basin. Staff evaluated Mill River sub-basin, because anything that is sewered out of this area is lost water that would have recharged the wells in the system. We evaluated those against the stream flow thresholds; we found that with the proposed transfer, the flow would go below thresholds 34% of the time, without the transfer flows would go below the thresholds 33% of the time.

Staff also evaluated the aquatic base flow, and the 95% duration flow. The aquatic base flow and 95% duration flow would be reduced 0.45%, and 2.1%, respectively. Any sewerage that could occur if there was area to build on would have very little impact on the flow thresholds, very little impact on the aquatic base flow or the 95% duration flow. The ACO and the Water Management Act Permit seem to be dealing with the cumulative impacts, with conditions that flows will be monitored.

The Landing Area being built out limits the transfer. Also limiting the transfer is the town's five year I/I removal through the ACO, and the town's sewer extension connection program, which requires no new sewer service can be added to the system unless there is sufficient balance in their DEP approved 7 to 1 Sewer Bank System.

One of the conditions we are recommending is that the Commission requires that Weymouth does not allow any additional communities or portion of communities to connect to their system unless they meet their sewer connection extension policy and the entity has a DEP-approved Comprehensive Wastewater Management Plan. The entity must also receive MWRA approval and get Interbasin Transfer Act approval. Weymouth would ask the entity or community to provide documentation that they had met these requirements.

Staff also requested that Weymouth address our comments on the Local Water Resources Management Plan, and that they continue their I/I program beyond the five-year ACO requirement.

**Item 3: Presentation: Request for Determination of Insignificance re: Charlton's proposal to purchase water from Aquarion, formerly Mass American Water Company, in Oxford**

Drury and Gartland presented the Staff Recommendation. The Town of Charlton has no public water supply; they have experienced major volatile organic compound contamination in the Charlton City area, near the Mass Turnpike service area, 6 W service area and Exxon LaMountain site.

Charlton has land in both the French River, and Quinnebaug River basin. Charlton wants to purchase water from the former Mass American Water Company, which is now known as Aquarion. Oxford water supply sources are in the French River Basin. Since some of the water

would be returned to the French River Basin via septic systems, we discounted the amount of inter-basin transfer by the amount that would be returned. The original request was for 0.46 mgd, our staff analyses indicated that this amount did not meet the criteria for insignificance. Staff suggested that the town submit an application for a full inter-basin transfer.

Under insignificance the Commission is required to look at several different criteria for stream flow. The additional flow to be transferred must be less than 5% of the instantaneous flow. The 95% exceedence flow or the 7Q10 flow when used in a program of pollution abatement will not be diminished, and special resource values will not be adversely affected.

Staff analyzed a transfer point, which would reflect all the withdrawals as well as the returns. A lot of water is returned by septic systems upstream. Fisheries was concerned that the Oxford sewerage proposal in the sub-basin Wellington Brook area, might have cumulative impacts on the brook and affect special resources in that area. We evaluated this proposal at three points. We used the gaging station at Hodges Village Dam on the French River to analyze the daily flow data. The withdrawal from French River would be up to 14% of the daily flow. In July, August, and September of 1997, the withdrawals would be above 5% of the flow most of the time, this is the instantaneous criterion the project did not meet. We looked at the 99% and the 95% flow duration for Wellington Brook. The 99% flow duration was used as a substitute for instantaneous flow, because of lack of data. What we found was that the transfer did not meet the 95% flow criteria on Wellington Brook or the 99% flow criteria used in place of the instantaneous flow. The transfer also did not meet the criteria on the unnamed tributary. Because of the special resource values on Wellington Brook, we are concerned with existing withdrawals having significant impacts in that stream.

Staff evaluated the transfer of 0.084 mgd to the proposed transfer; we saw some significant reductions in the 99% and the 95% flows. For cumulative impacts, we looked at the impact of this proposed transfer on the French River, in addition to the approved Oxford transfer for wastewater. This met the criteria. At this point on the river, a lot of the water is returned. We did not find a huge impact on the main stem, there was enough to trigger the 5% instantaneous; additionally, there is concern about the impacts on the tributaries.

**Staff recommends that the WRC find that this request does not meet the criteria for insignificance under the Act and therefore will need to undergo a full review for approval. The Commission will be asked to vote on this recommendation in July.**

Dave Edson with Prism Environmental, has been the consulting engineer to the Town of Charlton on this since 1999. Four years ago the town appropriated 4 million dollars to build a water system. That water system was intended to purchase water from Aquarion in Oxford. This system consists of 30,000 feet of water mains and a pumping station to pump water from Oxford to a water storage tank in Charlton. Most of the residential wells in Charlton have been contaminated with VOCs; DEP has been providing drinking water to the citizens. Some public water suppliers, such as restaurants have had repeated contamination. In 1999 most of Route 20 was under construction by Mass Highway. Mass Highway suggested that Charlton put in their pipes at that time. The pipeline and Route 20 are being constructed under a change order by Mass Highway's contractors. There was an immediate need to design this pipeline, get it permitted, and added to Mass Highway's project. We went after SRF funding, we went through MEPA, and the issue of inter-basin transfer came up. The town has received SRF funding from

DEP for most of the four million dollars for this project. There have been discussions with DEM staff and DEP about an Administrative Consent Order and a Declaration of Water Emergency so water can be pumped from Oxford to Charlton. There is a meeting set up to discuss the draft. A Declaration of Water Emergency expires after six months, but it can be renewed. Charlton is looking for something more permanent. Local water supplies will take time to develop.

**Item 4: Discussion: Stoughton's Local Water Resources Management Plan**

Drury stated that when we approved their Inter-basin Transfer Act request, the town had this plan underway, but were incorporating our final comments. At MWRA Board meeting they received their final approval for hooking up to MWRA contingent upon our approving their plan.

One of the conditions of their approval was that they incorporate the comments in their Local Water Resources Management Plan and have it approved by WRC. The Interbasin Transfer Act regulations state that the community must have completed or be in the process of completing a Local Water Resources Management Plan, whereas the MWRA requires an approved plan. In the draft the town needed to say where these plans were located. Overall the draft was very good. They answered most of our questions. We only have one question that is outstanding. While discussing their water conservation plan, they said since they implemented the plan in 1984 they "saved a great deal of water". We requested that they quantify what they meant by "a great deal". We are looking for a vote of approval in July.

**Item 5: Presentation: The Water Assets Project, current status**

Smith presents a project the Executive Office of Environmental Affairs is working on called "Protecting our Water Assets". This project is a direct result of the build out analyses that the Secretary undertook for all 351 communities of the Commonwealth, which shows based on current zonings what their future growth potentials could be. The project has many attributes, but one of them looks at future water and potential water needs. We think it can be very useful to help plan for future water supply and long-term wastewater needs.

The Goals of the project are:

- This project is to promote environmentally sound water and wastewater disposal options.
- Help both local and state governments identify environmentally sound water supplies today and protect them.
- Use the Community Preservation Act, to protect water supply areas.
- Where is the water, where are the demands?

The maps will be used to look for potential water supplies. The build out analyses shows where the developed land is today, what is undeveloped, and what is undeveloped and not constrained. Compare to where the water resources are, to protect those areas.

We chose a pilot area of four communities in the Route 495 belt, high growth communities facing water and wastewater issues. Smith refers to a map. The current land uses in Zone IIs are as follows, green is natural areas, yellow is agriculture, and purple is commercial and industrial. The areas look well protected today, but there are developable areas within the green areas in zone two.

Take the same map and add in a high and medium yield aquifer. Green areas are currently not developed, and purple is developed. You can show areas that are developable within these areas.

It shows areas within the high-medium yield aquifer that are currently unprotected and may be a future water site.

You can't just put a water supply anywhere. You can't put it in current protected open space, you can't put it within a hundred feet of a wetland, you can't put it within four hundred feet of commercial, residential, industrial, mining, or transportation. You cannot convert agricultural land to water supply lands.

In the gray areas with restriction one (you can't use existing protected open space) those areas have been whited out. Everything that is left is a shade of gray. The second restriction is wetlands, and the third is four hundred feet within certain uses. You remove the wetlands and the four hundred feet of certain uses. There are very few areas that are actually left. There are some areas within the high and medium yield aquifers for a well.

How do you look at other issues like stream flow and protected habitat areas? You can't just put a well where there is water. How do you put qualifiers on those areas to show that they are environmentally sensitive? If you are protecting these areas for water supply you are also protecting them for many other benefits. All the watershed lands are great habitat areas. How can you show that there are multiple benefits? Protect water supply areas for multiple reasons so you can accomplish some of your green space habitat and some of your other goals at the same time. We have not quite figured out how to work that in. We want to show that water supply and wastewater should not be looked at separately from the environmental issues.

We want to do a two-stage process. First we want to take the maps and do that for the whole Commonwealth and try to get a sense of where we are today. We want to go out and meet with every water supplier in every community to ground truth the maps and the data in DEP data bases to quantify how much water is in their existing supplies, find out how much can they can get from them, find out if they have other undeveloped sources, and if they have wells that can be rehabbed and improved.

We are going to work closely with Mass Water Works Association and DEP about going out and collecting data and refining these maps so that MWWA and DEP are informed about local data and do a first cut of where the water is, and who is having problems.

Long term you can do a lot more. We are working with USGS to do a major project to refine and upgrade our surficial geology for the entire state, which will take those high and medium yield aquifers and give us much more detailed data. We would like to map the water infrastructure across the Commonwealth so you can do stress basin analyses on inflows and outflows based on where the water is moving from and where it is moving to. You can do much more sophisticated analyses of whether there is really any water left in a sub-basin.

We plan to bring in a group to assist us. This is a good opportunity to take a statewide look, but also provide information at the local level to local water supplier on the water and wastewater issues. This will help us identify high value water supply land that is unprotected. For towns to meet their future water demands they don't just have to find more water, they can change their zoning.

A commission member asked a question about stressed basins. Smith answered that the stressed basin had a methodology of how to do an inflow outflow analyses and compare it to stream flow. If we are successful in mapping on GIS all of our sewer and water systems in the Commonwealth, then by computer you will be able to do inflow outflow analyses for each watershed and determine how many water sources we have, where the water goes, and where is it sewered and where is it septic. Long term we will have a much more sophisticated ability to do those analyses, which now is labor intensive.

Commission member thinks that this information should be shared with the legislators so more money will be allocated to MassGIS.

Commission member asks an inaudible question, which Smith answers by saying that there was a rough cut that was done in the last State of the Environment Report that does do a total, potential, and future demand. The numbers get tricky when you start to analyze average state demand versus peak demand. There may enough existing capacity to meet average day demands in the future, but it is not clear if we meet peak demands in the future. DEP is doing safe yield for all the reservoirs around the Commonwealth. That is a big number, because there is not always agreement as to how much water a reservoir can environmentally soundly provide to their communities and sometimes communities have different opinions about that. Some of the data is going to take a couple of years to develop.

Meeting adjourned

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Minutes approved 7/10/03